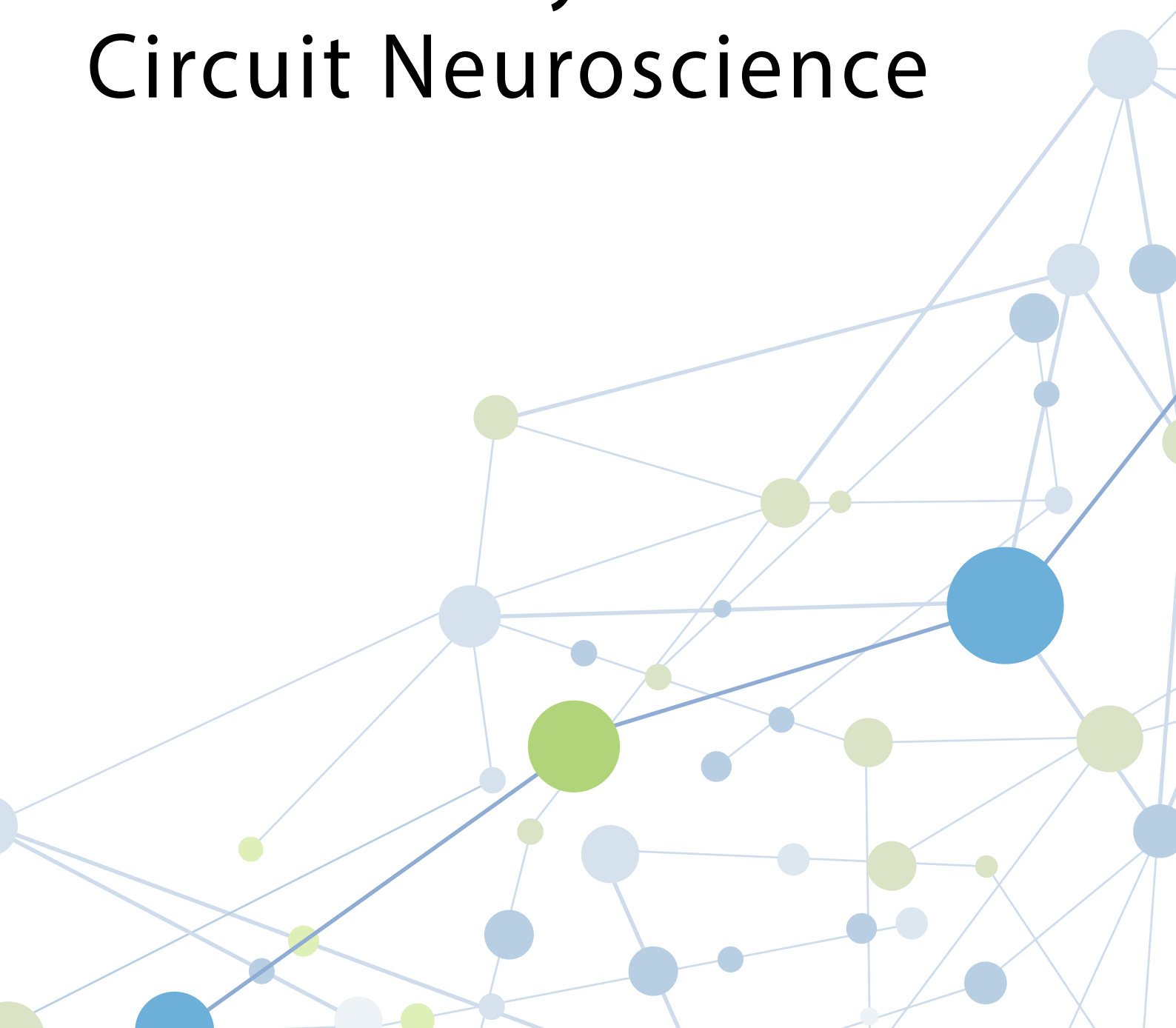
ANIMA LAB

INSCOPIX

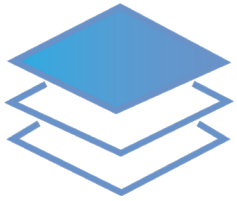
The Next Frontier of Discovery in Circuit Neuroscience



Proven Innovative Technology
Trusted by Researchers Worldwide

Our complete neural circuit solutions
empower you to make ground-breaking discoveries
with speed and scientific rigor

Miniscope
Platforms
and
Applications



Data Analysis
Solutions

Enabling Success
with Expert Support

Cutting-edge technology

End-to-end integrated solutions

Over 150 publications in top-tier journals

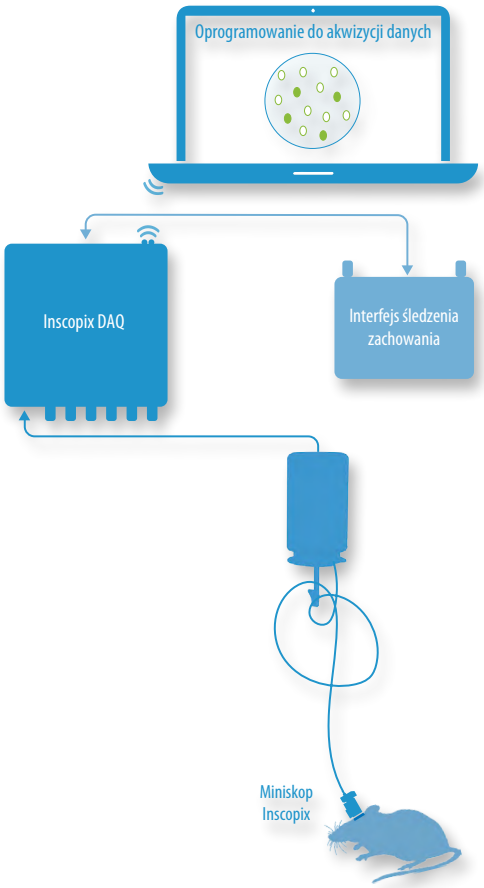
Our Newest Miniscope System

nVue™ System: Dual color imaging during free behavior

Key Benefits

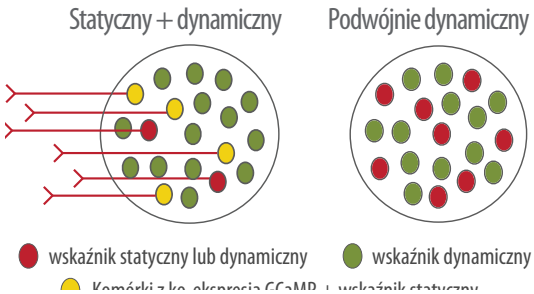
- Image two distinct neuronal populations simultaneously with single cell resolution
- Record two brain signals longitudinally over months
- Explore the intricacies of how two populations of neurons interact during free behavior

How it Works



nVue Applications

Poznaj wiele strategii obrazowania



Multicolor Registration Data

The Gold Standard Platforms for Imaging and Manipulating Brain Circuit Dynamics In Vivo

nVoke™ System

Integrated optogenetics and calcium imaging

Key Benefits

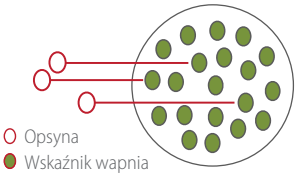
- Image large-scale brain activity with single-cell resolution during free behavior
- Record the same field of view over months with electronic focusing
- Integrate multimodal inputs with custom configurations and precise timing

nVista™ System

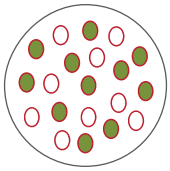
Calcium imaging during free behavior

nVoke Applications
(simultaneous or sequential)

Obrazowanie jednej populacji komórek
+ opto-wzbudzanie/hamowanie projekcji
z innej populacji komórek



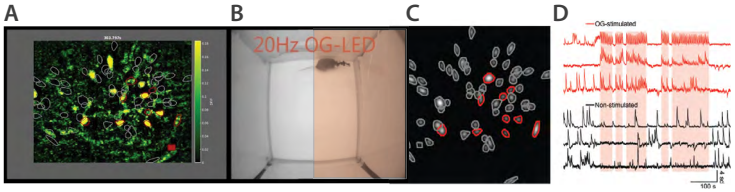
Obrazowanie
+ opto-wzbudzanie/hamowanie
dwóch populacji komórek



Obrazowanie
+ opto-wzbudzanie/hamowanie
tej samej populacji komórek

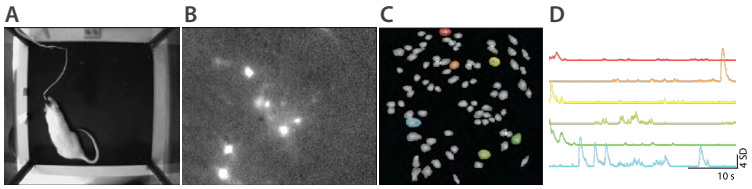
Image in Multiple Species

nVoke imaging and optogenetics in mouse



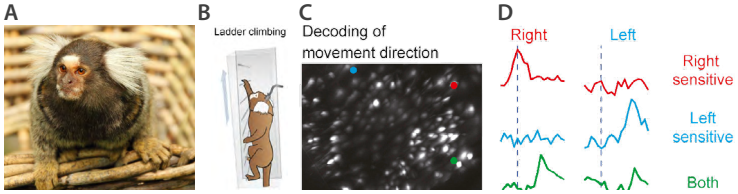
A, nVoke stimulation of BLA-NAc terminal projections plus simultaneous imaging of NAc neurons in a Chrimson_GCaMPBLA_NAc mouse; **B**, BLA activation increases Ca2+ responses in NAc and is rewarding in mice exposed to place preference; **C**, ROIs identified (red, OG-stimulated; gray, non-stimulated) and **D**, data traces show stimulated (red) and non-stimulated (black) cells. Orange bars = mouse in OG-LED stimulation zone. Modified from Stamatakis et al., (2018) Front Neurosci, 12:496.

nVista imaging in rat



A, Rat wearing nVista microscope with lens probe positioned in hippocampus CA1. **B**, Delta F/F image of cell activity in CA1; **C,** Spatial locations of individual cells color-coded and identified by PCA/ICA; **D**, Example Ca^{2+} activity traces (n=6; identified in color) from CA1 highlight individual neurons from panel C, over time (Inscopix data).

nVista imaging in marmoset



A, Common marmoset (Callithrix jacchus) **B**, Schematic of maroset ladder climbing task; **C**, Image showing field of view (in primary motor cortex) through nVista (cells identified are color-coded in blue, red, and green); **D**, ROIs are color-coded to show cell firing sensitive to right (red), left (blue), or both (green) arm reach during climbing task. Images modified from Kondo et al, (2018) Cell Reports 24, 2191-2195.

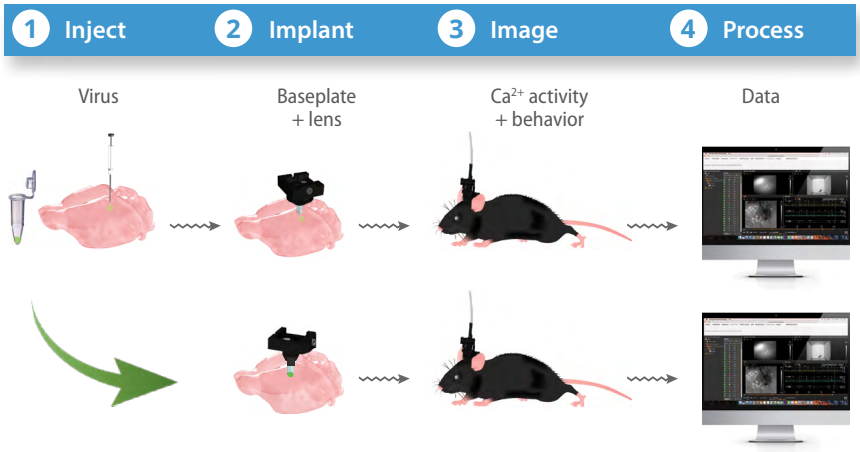
Workflow Solutions

Advanced workflow solutions to accelerate your imaging success

A Simplified Workflow

Ready-to-Image Viruses and ProView™ Integrated Lenses

ProView™ Express Probes



Express GCaMP in your brain region of interest; **Ready-to-Image Viruses** eliminate the need for optimization.

Implant a **ProView Integrated Lens** or use a **ProView Express Probe** to reduce surgery to a single step.

Image, manipulate and record Ca^{2+} activity in ~100's of cells with **nVista, nVoke,** and **nVue** systems.

Videos are processed using Inscopix **Data Processing Software** to extract relevant Ca^{2+} traces and events.

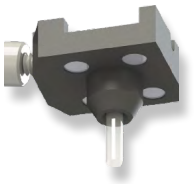
Ready-to-Image Viruses

- GCaMP viruses optimized for several brain regions in mice and rats
- Ensures consistent and reproducible GCaMP6 expression every time
- Available in ready-to-inject aliquots for immediate use

Mouse brain	Neocortex, hippocampus CA1, dorsal striatum
Virus construct	AAV1.Camk2a.GCaMP6f.WPRE.bGHpA
Rat brain	Prefrontal cortex, hippocampus CA1
Virus construct	AAV1.Camk2a.GCaMP6m.WPRE.bGHpA

ProView Integrated Lenses and Express Probes

- Gradient Refractive Index (GRIN) lens with attached baseplate enables efficient surgery and reproducible imaging across cohorts
- Integrated Lens reduces number of surgeries and Express Probes have a virus-coating reducing surgery to a ***single step***
- Express Probe enables cell type-specific, reproducible imaging across cohorts and increases yield



Inscopix Commutator

- Reduces supervision during imaging sessions
- Responds to 360° of movement in any direction and reduces cable wear and tear

Software Solutions

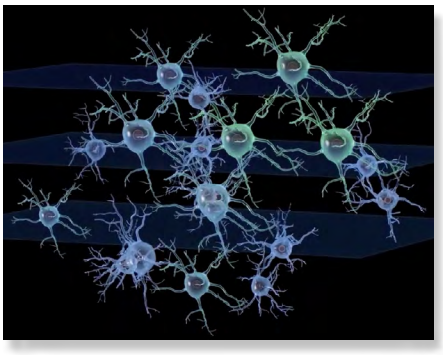
Powerful software options to acquire and process Ca^{2+} imaging videos with Inscopix Data Acquisition (IDAS) and Data Processing Software (IDPS)

IDAS

Robust acquisition software makes Ca^{2+} imaging efficient

Key Benefits

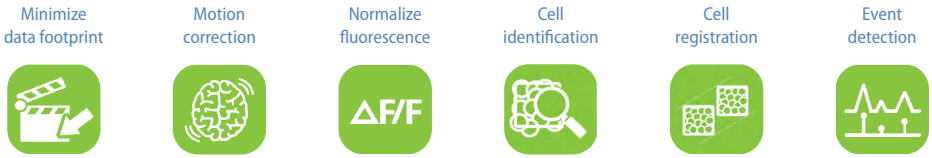
- Live stream and record Ca^{2+} dynamics, crop and compress to speed up data transfer
- Digital focus enables multiplane imaging to maximize number of cells captured
- Advanced configurations allow flexible control of optogenetic stimulation and external devices



IDAS captures live Ca^{2+} dynamics in freely moving animals. *Multiplane imaging* enables the user to image up to three planes in a single session and maximize cell numbers imaged for more powerful results.

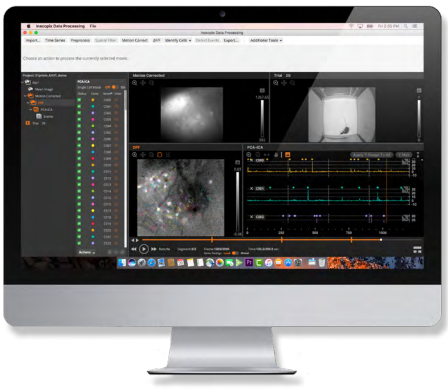
IDPS

Easily navigate Ca^{2+} imaging data using our complete streamlined processing pipeline; no scripting expertise is required



Key Benefits

- Automatically identify unique cells and extract Ca^{2+} traces using PCA/ICA or Inscopix CNMFe
- Perform cell registration: **longitudinal** – to identify the same cells over days, or **multicolor** – to identify two cell populations
- View and export high-resolution data into most formats for custom analyses and generate high-res manuscript images; simultaneously integrate Ca^{2+} videos with behavioral data



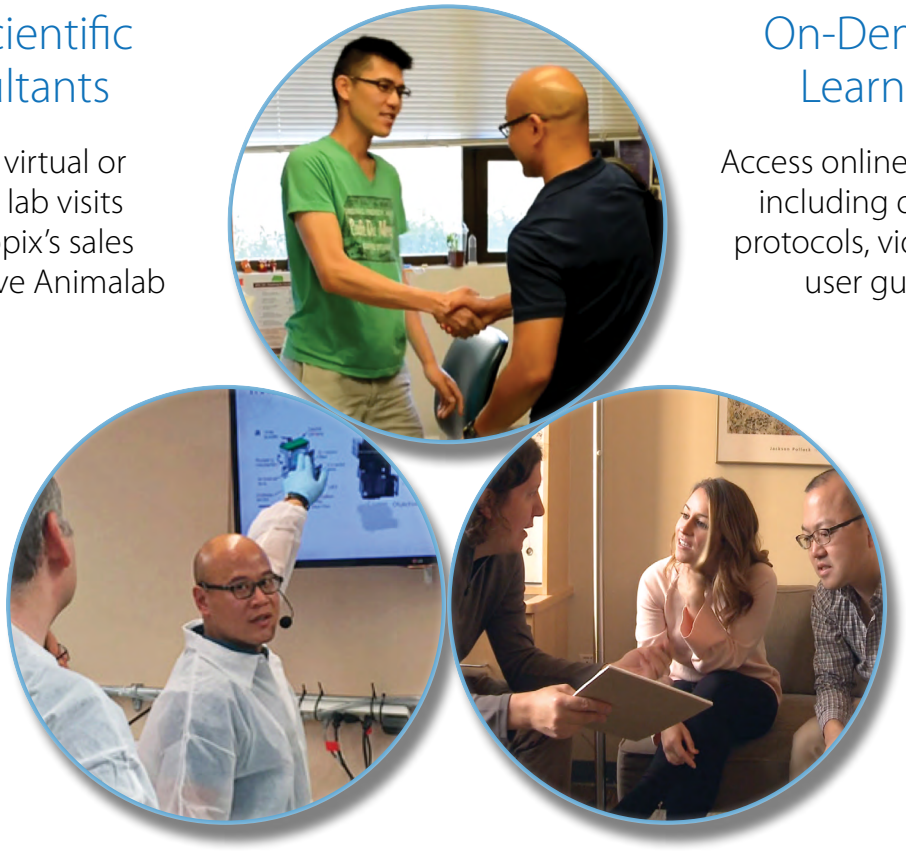
IDPS streamlines your raw Ca^{2+} videos with our intuitive processing pipeline to easily identify Ca^{2+} events. *Integrated visualization* enables viewing up to four panels of data (raw image, cell identification, live animal behavior and Ca^{2+} traces) for more impactful results.

Enabling Success with Expert Scientific Support

From experimental design to data analysis, from grant to manuscript submission, we help make great science happen faster

Field Scientific Consultants

Schedule virtual or in person lab visits with Inscopix's sales representative Animalab



On-Demand Learning

Access online resources including detailed protocols, videos, and user guides

Grant Assistance Program

Receive personalized consultations on grant and manuscript submissions for that next neural circuit discovery

ANIMALAB

www.animalab.eu info@animalab.eu

INSCOPIX

Innovative Imaging to Empower Discovery in Brain Health

2462 Embarcadero Way
Palo Alto, CA 94303
888.874.6458
info@inscopix.com

www.inscopix.com